Laparoscopic Surgery

A SAFE AND RAPID APPROACH TO PNEUMOPERITONEUM: OPEN LAPAROSCOPY WITH THE HASSON'S CANNULA – AN EXPERIENCE OF MORE THAN 1,000 CONSECUTIVE CASES .

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Introduction: The reported rate of mortality related to the creation of pneumoperitoneum varies from 0.05 to 0.2%. However, a definite trend not to report such complications exists, and therefore such figures are probably underestimated. The main source of morbidity and mortality during the creation of pneuoperitoneum is due to the injury to major retroperitoneal vessels and/or to hollow viscus. The open approach, first introduced by Hasson in 1971, should prevent nearly all such accidents, but it failed to receive a widespread acceptance in surgical centers (1, 2). We performed a retrospective evaluation of our experience with the open approach to pneumoperitoneum in order to check its safety and to explain the reason of such a phenomenon

Methods: From 1991 to 1997, 1,006 consecutive open laparoscopic procedures were performed by the Authors.

Results: Mean operating time for inducing pneumoperitoneum was 4.8 minutes (range: 1.5-16). The procedures performed in obese patients (B.M.I. > 30) averaged 9.5 min. and in the presence of dense periumbilical adhesions averaged 7.2 min. Mean time in the first 50 procedures (5.9 min.) was significantly higher than in the remaining patients (3.8 min.). We did not record any failed attempt. We found 22 (2.2%) complications related to open laparoscopy (Table).

Complication	First 50 cases n. (%)	Subsequent 956 cases n. (%)
Umbilical infection	1 (2)	18 (1.8)
Subumbilical hernia	1 (2)	- -
Abdominal wall hematoma	- -	1 (0.1)
Small bowel injury	1 (2)	- -
TOTAL	**3 (6)**	**19 (1.9)**

Discussion: The results of this study confirm that the open approach can be safely performed and is effective in the prevention of major complications after a learning curve of about 50 cases.

Esophageal achalasia: laparoscopic Heller + Nissen procedure

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Introduction: Since 1992 to date we have submitted 117 achalasic patients to Heller's myotomy and Nissen-Rossetti fundoplication throught laparoscopic approach. **Methods**: The antireflux fundoplasty was always calibrated by intraoperative manometric measurament (IEM = intraoperative esophageal manometry). In 90.4% of the patients abolition of the LES pressure was found at the first intraoperative manometric control. In the remaning cases the section of a few small fibres allowed to obtain the desired goal. The Nissen fundoplication was calibrated to pressure values of 23.12±5.06 mmHg with a lenght of 2.63±0.58 cm. IEM documented the expected newHPZ pressure values at the first measurement in 85.7% of the cases. **Results**: No major intraoperative complications occurred excepting nine esophageal perforation in the course of myotomy. Among these, 7 were repaired throught laparoscopy by a single suture while 2 larger lesions required a "conversion" to laparotomy. Another conversion was necessary due to respiratory complications caused by the pneumoperitoneum. Two patients showed esophageal leakages on the 2nd postoperative day; on the first patient a laparotomy was performed and a drainage positioned while the other was treated throught laparoscopy by suture and drainage. The two patients were also adminstred TPN; healing was demonstrated respectively on the VII and the VIII postoperative day by Gastrografin® swallow. Hospital stay was 3.6±1.14 days. All patients were also evaluated postoperatively by clinical observation and 43 agreed to be followed-up also by esophageal manometry and 24 hours pH-monitoring. The lenght of the follow-up on these 43 has been, to date, 49.4±6.18 months; 16 patients complained of transitory dysphagia which resolved spontaneously within 3 months, while 18 patients still experience mild occasional dysphagia (Visik II.III). The postoperative pressure values of the newHPZ were 12.5±3.21 mmHg which are very similar to those found in the control group of healthy subjects (15.2±2.18 mmHg). The post-deglutive relaxation rate (75.6%), on the contrary, was significantly lower than in the control group (95.5%). The esophago-gastric 24 hours pH monitoring showed total absence of reflux episodes, even the normal post-prandial ones (hypercompetent Nissen). **Conclusion**: The resuls of this study, compared with those obtain with "open" surgery, confirm the validity of the mini-invasive approach for the surgical treatment of esophageal achalasia.

EARLY FEEDING IN LAPAROSCOPIC COLON RESECTION FOR CANCER

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Early feeding in patients who underwent a colon resection has been subject of recent publications that defined its feasibility and related advantages. It seems therefore obvious that in patients operated by laparoscopic means for colon cancer this issue may be of interest for the lower incidence of ileus in the laparoscopic approach.

The Authors present a group of 10 patients who underwent respectively to laparoscopic right colon (3), transverse colon (2) and left colon (5) resection. In all patients the same early feeding scheme has been applied, consisting of:

- 1rst day p.o. → Removal of naso gastric suction, liquid diet, enema, ingestion of alimentary integrator
- 2nd day p.o.→ Integratore alimentare, light diet, suspension of i.v. therapy

The same scheme has been continued until discharge.

Only one patient could not adhere to this scheme because of the necessity of mantainig a gastric suction.

All remaining patients passed air and stools 1rst day p.o. and were discharged within day 8.

These preliminary results suggest that early feeding can further reduce hospitalization in patient who underwent colon procedures in laparoscopy, besides the psychological advantage, the ease of mobilization and the early recovery of physical activity.

This issue, if confirmed, can be of great interest, considering that not always a significant difference has been shown in terms of hospital stay between laparoscopic and laparotomic approach.

LAPAROSCOPIC VERTICAL BANDED GASTROPLASTY.

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Introduction. "Open" Vertical Banded Gastroplasty (VBG) led satisfactory results on weigh loss. Due to perioperative risks of "open" surgery Authors started, on November 1995, with VBG by laparoscopic approach.

Methods. At the Surgical Department of the University of Turin, 170 patients, from November 1995 to December 1998, underwent a laparoscopic VBG with complete division between the gastric pouch and the fundus. Average age was 38 years, mean weight 119.3 Kg., excess weight 104.5%, BMI 43.9 Kg/m^2. Conversion to open surgery occurred in 1 case (0,6%). Four cases were a conversion to VBG of a previous LASGB. Mean operative time was 95 min. (range 50-210 min.).

Results. We didn't observe intraoperative or postoperative mortality related to surgery. Early complications were 8/170 (4.7%); 4 bleedings (transfusions), 3 temporary outlet substenosis (medical therapy), and 1 subphrenic collection (medical therapy). Late complications were 6 out of 151 cases (4%) with follow up over 3 months, as follows: 1 food intolerance for poor compliance; 1 outlet stenosis with collar erosion (VBG takedown by laparoscopic approach in both cases), 1 "cascade" pouch with antideclive outlet (conversion in gastric by pass by laparoscopy), 2 cases of severe solid food intake troubles (medical therapy), 1 pouch enlargement with gastro-oesophageal reflux (medical therapy).

Excess weigh loss was: 32.9% at 3 months, 48% at 6 months, 58.9% at 1 year, 61.3% at 2 years, 61% at 3 years. According to Reinhold classification (residual excess weigh < 50%) a success was achieved in 70% of the patients after 1 year and 72.7% of the patient after 2 years.

Discussion. Results on weight loss after laparoscopic VBG compared favourably with Literature data and personal data previously reported on 218 "open" VBG. The complication rate was low. Furthermore, we observed a wide reduction of perioperative risks, particularly the decrease of respiratory distress, ileus and pain, as well as the disappearance of late incisional hernias, due to the coelioscopic approach.

On the other hand, laparoscopic ASGB showed, at the beginning, the same advantages on perioperative risk reduction, but a high rate of late complications due to stomach slipping through the band and pouch enlargement, with sudden functional stoma stenosis; in last years this long term complication rate decreased due to technical modifications, such as pouch volume reduction, retrogastric tunnel above the bursa omentalis and delayed band inflation.

By the way, in front of our early and long term results obtained with VBG, we continue to perform this operation, considering it as a safe and effective technique in morbid obesity surgery.

TWO-TROCAR APPROACH FOR LAPAROSCOPIC CHOLECYSTECTOMY.

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Laparoscopic cholecystectomy (LC) is usually performed with 4-trocars according to well defined technique. In our experience, from July to October 1998, we selected 19 pts, out of 28 pts submitted to standard LC, that underwent 2-trocars LC. In our technique, the trocars site were essentials: after CO_2 pnemoperitoneum using Veress needle, we insert the 1st trocar in the upper part of the umbilicus, then we carefully inspected the abdominal cavity and according to the gallbladder morphology we decide for the 4 or 2 trocars method. In the 19 pts selected, we inserted a 2nd 5 mm trocar 2 cm, below-left of the xiphoid process. Subsequently two suture were passed through the abdominal wall: the first at the level of the anterior axillary line then passed at the top of the gallbladder fundus. The 2nd suture, inserted at the level of the hemiclavicular line, then passed through the neck of the gallbladder and exit at the level of the anterior axillary line. This 2nd stitch is very important to adeguately expose the Calot's triangle in the fore and in the back, to facilitate the isolation of the cystic duct and artery (pupped technique). Once isolated, they were closed using a 5 mm titanium clips (Ethicon-Endosurgery, Ligaclip–Allport). Intraoperative cholangiography was performed using a percutaneous catheter in 15 pts. Retrograde cholecystectomy was performed and gallbladder extracted through the umbilical port, using a 5 mm 0° optic in the subxiphoid trocar. Scars were closed using Dermabond (Ethicon) but previously injection of bupivacaine was done to reduce post-op pain. No procedure were modified to 4-trocars technique. The technique was feasible in 19/28 pts (68%) taking into account that safety of patients remains paramount. Mean operation time was 52 min. (range: 34-78 min.). No intraperitoneal drainage was used. Mean hospital stay was 42 hrs (range: 1-3 days). No increase of complication vs. 4-trocars LC. We conclude that this methods in term of results (safety, operation time) is similar to 4-port LC but this technique seems to offer better results in term of post-operative pain, hospital stay without consider better cosmetic results and cost/effective. Moreover, we also consider the opportunity to apply this method as day-surgery operation.

LAPAROSCOPIC FENESTRATION OF POLYCYSTIC LIVER DISEASE

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Polycystic liver disease is a genetic disorder due to a development defect of intralobular bile ducts. The number of cysts is related with age and, in women, with the number of precious pregnancies. Usually asymptomatic and often associated with polycystic disease of the kidney, it manifests in about 20% of the patients, between 40 and 60 years of age and symptoms include abdominal swelling, pain and dyspnoea. Complications like bleeding from esophageal varices or rupture, obstructive jaundice and sepsis. The surgical treatment of choice in patients without renal failure, is cyst fenestration with internal drainage into peritoneal cavity. Single liver cysts have been treated by laparoscopic drainage, decompression and excision since 1991 *(Surg Endosc 1994;8:884)*. A laparoscopic fenestration of polycystic liver disease is presented in which a 42 years old lady had two large cysts more than 10 centimeters in diameter excised. She presented with epigastric and right upper quadrant discomfort due to compression. US and CT scan showed cysts on V and VII-VIII segments. Postoperative workup included hematologic, hepatic and renal laboratory tests, and determination of respiratory function. A periumbilical Hasson trocar was placed, then bilateral and epigastric 10 mm ports were added. First, a V segment cyst was aspirated. However, clear fluid escaped faster alongside the needle than through it. Therefore the cyst was opened directly and the roof excised with endoshears, according to the technique of Lin. Hemostasis was obtained by cautery and continous suture. In a similar manner the roof of the cyst of VII-VIII segment was also excised. Two fine drains were placed in cavity and removed when all secretions ceased. Postoperative discomfort lessened and patients was discharged home on postoperative day 5, without drains. One month later US scan confirmed decompression and the patient has remained well since. In conclusion, laparoscopic unroofing results in complete disappearance of the cysts, expecially indicated in younger patients with more than one large cyst, and can avoid complications of both open surgery and ethanol sclerotherapy *(Br J Surg 1991;78:1047)*.

Gastro-esophageal reflux: laparoscopic Nissen procedure

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Introduction: The video shows the laparoscopic technique we have routinely used since 1992 for the surgical treatment of reflux esophagitis. **Methods**: To date we have performed, with this technique, 153 Nissen-Rossetti fundoplications. The mini-invasive approach has not changed in any respect the basic principles of the "open" procedure. In fact, we use only the anterior wall of the gastric fundus for the fundoplication (which is always calibrated by intraoperative manometry) and we do not section either the lesser omentum or the vasa breviora. The fundoplication is usually calibrated to pressure values of 25.1±6.04 mmHg with a leight of 2.53±0.67 cm. The expected pressure values were found at the first intraoperative measurement in 84% of the cases. A posterior hiatoplasty has been performed in 51.7% of the patients. **Results**: Operating time has ranged from 25 to 120 minutes without any intraoperative complications. Only a conversion to "open" surgery has been deemed necessary due to a huge hiatal heria. Oral feeding has been administred on the first postoperative day and hospital stay has been of 2.8±0.6 days. We have had no significant postoperative complication with only 10 patients complaining of mild pain. All patients have been followed up by clinical evaluation (42.2±9.18 months) while 45 have agreed to undergo pH-manometrical monitoring (36.7±8.23 months). Only 5.8% of the patients had complaints of occasional dysphagia (Visik I) and 4.5% (6/151) of persistent disphagia. Among these latter 7 patients, two, whose symptoms were due to a "lazy resident repair" were re-operated through laparotomy and two through laparoscopy (adhesiolisis and pneumatic dilatation). Another patient was treated conservatively by pneumatic dilatations while the last two have been lost to follow-up (re-operated elsewhere). Esophageal manometry has shown newHPZ pressure values of 14.6±3.48 mmHg which are not significantly different from those obtained from the control group of healthy subiect (15.2±2.18 mmHg). The rate of post-deglutive relaxation (78.2%), on the contrary, was found significantly lower than in the control group (95.5%). Twenty-four hours pH-monitoring has shown: hypercompetence of the fundoplication in 31 patients (88.6%) with total absence of reflux episodes, even the physiological post-prandial ones while in 4 patients (11.4%) a mild, clinically unimportant, reflux (% of time > 4 = 1). **Conclusion**: These results, which are very similar to those obtained by laparotomy approach, furtherly confirm the efficay of the laparoscopic approach in the surgical treatment of gastro-esophageal reflux.

LAPAROSCOPIC REPAIR OF RECURRENT INGUINAL HERNIA

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INTRODUCTION: Inguinal herniorrhaphy is one of the most common general surgical operation, with 10-30% performed for recurrence. Laparoscopic inguinal hernia repair could rapresent an attractive alternative to conventional inguinal herniorraphy. The preperitoneal endoscopic inguinal hernia repair was developed in order to combine the results of the Stoppa, Rives or Wantz techniques with the advantages of minimally invasive surgery. The aim of this paper was to evaluate the laparoscopic approach to recurrent inguinal hernia repair which dissected the entire inguinal floor and repaired all potential areas of recurrence without producing tension. **METHOD:** From March 1992 to March 1998 we performed 1303 consecutive laparoscopic hernia repairs in 1090 patients; one hundred sixty-six patients with 184 recurrent hernias (14,1%) were treated: 178 by transabdominal preperitoneal repair (TAPP), 5 by totally extraperitoneal repair (TEP) and one by intraperitoneal onlay mesh (IPOM). Were repaired: 60 EO (32,1%); 75 D (40,3%); 9 IO (5,0%); 19 EO+D (11,0%); 10 F (5,5%); 11 IF (6,1%). The types of recurrent hernias in 166 patients were: 105 monolateral; 43 monolateral in bilateral and 18 bilateral. The numbers of recurrences in the 184 recurrent hernias were: 1 in 128 hernias (69,6%); 2 in 38 (20,4%); 3 in 11 (6,1%); 4 in 3 (1,6%); 5 in 2 (1,1%); 6 in 1 (0,6%) and 7 in 1 (0,6%). All procedures was performed under general anesthesia; three trocars were inserted, the first of 10 mm (optyview) via the umbilicus, into which the 30 degrees endoscope was inserted. The polypropylene mesh (15x9 cm) was placed in the preperitoneal space, after dissection of spermatic cord, over the myopectineal orifice, with the reconstruction of the inguinal ring. Laparoscopic hernia repair was performed in all patients. Mean operating time was 72 min (range 25-215) for the monolateral recurrent hernia, and 135 min (range 100-215) for the bilateral recurrent hernia. **RESULTS:** The follow-up was documented prospectively by use of computed data base, with a postoperative observation period ranged from 12 to 78 months and a follow-up rate of 95%. The mayor complications were 2,7%: persistent groin pain in 1 patients (0,5%); hemoperitoneum in 1 (0,5%); hematoma in 2 (1,2%); bladder lesion in 1 (0,5%). The minor complications were 2,1%. A total of 3 (1,6%) recurrences occured in all 184 hernias treated. **CONCLUSIONS:** Totally preperitoneal endoscopic inguinal hernia repair is reproducibile for any type of primary or recurrent inguinal hernia, even in patients with previous surgery or systemic disease. Patients with recurrent inguinal hernia who undergo laparoscopic repair have unquestioned fewer recurrence than those who undergo open surgical repair with a postoperative minimal pain and minimal disability. **REFERENCES:** 1) Felix EL et al.: Laparoscopic repair of recurrent hernia. Am J Surg 1996 Nov; 172 (5): 580-3. 2) Schaap HM et al.: The preperitoneal approach in the repair of recurrent inguinal hernias. Surg Gynecol Obstet 1992 Jun; 174 (6): 460-4.

Laparoscopy role in abdominal neoplasia staging

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Laparoscopy technique allows an exact diagnostic definition and complete neoplasia staging with a minimum surgical stress and a very low morbidity and mortality; this aspect is extremely important, in particular considering that generally those patients are weakened or they are young people for whom it is imperative that they have a certain neoplastic pathology diagnosis. A clear diagnosis of the illness is made possible as this technique not only allows the concerned zones to be seen, but also makes it possible to take bioptic samples whereas with laboratory and instrumental research this is not possible. Laparoscopy technique have also proved useful when evaluating the effects of chemotherapy and radiotherapy on primary neoplasm and it allows the possibility of carrying out surgery after an adjuvant treatment. A problem that still needs to be accurately assessed concerns the possibility of neoplastic cells spreading or contaminating the entrance holes, if the bioptic samples aren't carried out in an appropriate and cautious manner.

Our experience of this technique started in September 1997; it has been used on 23 patients and the data obtained has allowed us to assess the priority role of videolaparoscopy compared to the classical diagnostic iter which didn't prove to be decisive nor give clear results.

COLONIC OBSTRUCTION DUE TO LAPAROSCOPIC HERNIA PROSTHESIS'S MIGRATION.

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The Authors describe a clinical case of colonic obstruction due to prosthesis migration from laparoscopic hernioplasty .
The patient came with a diagnosis of sigmoid stenosis. Endoscopically biopsies (three) were always negative for cancer, but in any case an operation was required due to progressive obstruction of the colon, confirming the radiological findings, of the prosthesis migration inside the colon. The clinical case described, shows the possibility of the prosthesis migration .The occurrence of the dislocation depends on the technique; the lap. occurs in 5-8% of the cases compared with the open surgery with 0.5-3%.This small variation is probably due to various technique in surgery: which in the case of lap. technique must be done respecting the application criteria.
The enterofilly, which the polypropylene posses, forces us to close hermetically the peritoneal flap because otherwise it would determine the migration of this towards the abdominal organs.

HAEMOCOAGULATIVE-FIBRINOLYTIC MODIFICATIONS AFTER LAPAROSCOPIC CHOLECYSTECTOMY

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INTRODUCTION
About 30° anti-Trendelenburg position and pneumoperitoneum during laparoscopic cholecystectomy cause haemodynamic modifications in inferior vena cava and in femoral veins producing phlebostasis in lower limbs. This stasis can activate coagulation and fibrinolysis enzymatic cascade. In this study we consider some coagulative and fibrinolytic alterations during laparoscopic cholecystectomy (LC) and open cholecystectomy (OC).
MATERIALS AND METHODS
We include 18 patients with symptomatic and non-complicate lithiasis, random distributed in two groups of 9 patients. One group includes patients who underwent LC, the other group patients who underwent OC. We exclude haemocoagulopathic, diabetic, obese patients and all patients with cardiopulmonary diseases, phlebotrombosis, thrombophlebitis, thrombo-embolisms and venous insufficiency.
Sex, age, anesthesiologic risk (ASA Class.), time to perform the operation are similar in both groups. Nobody underwent neither common bile duct exploration nor antithrombotic prophylaxis. No patients made use of drugs that can produce alterations in haemocoagulative system. We have considered thromboplastin time (PT), partial thromboplastin time (PTT), plasmatic fibrinogen (PF), antithrombin III (ATIII) and fibrinogen degradation products (FDP) preoperatively and 4, 8, 12, 24 and 48 hours after operation. Data were evaluated through the adaptation of the Student t.
RESULTS
Postoperatively both groups didn't show significant alterations of PT and PTT values.
PF levels were significantly high in OC patients until 24th hour ($P<0,001$ at 4th hour); at 48th hour level were normal. In LC patients PF levels were significantly ($P<0,05$) high only at 4th hour.
ATIII levels were decreasing ($P<0,05$) until 4th hour in both groups, subsequently levels were normal. FDP serum levels were high ($P<0,05$) at 4th, 8th, 12th hour in OC patients, and at 4th and 8th in LC patients.
CONCLUSIONS
Results confirms that in both groups there is a low haemocoagulative-fibrinolytic activation; higher increase serum PF levels in OC patients confirms a higher surgical stress.

LAPAROSCOPIC ABDOMINOPERINEAL RESECTION

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Laparoscopic colic surgery for cancer is one of the controversial issues of the last years. Abdominoperineal resection seems to be one of the most favorable candidate to laparoscopic approach because of technical aspects and of adhesion to the principles of oncological radicality. The film presents the operation following its main surgical steps:
The patient is placed in an extreme Trendelemburg position in lateral right decubitus so to spontaneously mobilize the ileus from the pelvic cavity.
The identification of the right urether can be done, in thin patients, with the peritoneum intact.
The first step is the peritoneal incision in correspondence of the right iliac artery, opening the retroperitoneal cavity up to the origin of the inferior mesenteric artery at the abdominal aorta. The next step is preaortic linfectomy, sparing the nervous structures and identifying the left urether. Total excision of mesorectum and of rectal lateral ligaments complete the abdominal dissection.
The operation shown in this video presents a two team approach so to integrate the abdominal and perineal phases of isolation. Adopting this two-team approach, bleeding control in the pelvic area is obtained under direct vision.

We don't close the peritoneum routinely. If peritoneal closure is considered necessary, the two peritoneal flaps should be closed with a running suture, so to prevent possible intestinal obstruction.

LAPAROSCOPIC ADRENALECTOMY

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Laparoscopic procedure is the gold standard for removal of the adrenal gland. The only contraindication is cortical cancer.
After a four years experience in laparoscopic surgery near J. Marescaux and C. Huscher we started laparoscopic adrenalectomies: 5 operations were carried out. There was one conversion to open surgery for a 6 cm. retrocaval pheocromocytoma. The mean operative time was 112 min. There were no complications; none of the patients required blood transfusion. The median postoperative stay was 2.4 days (range 2-4).
Laparoscopic adrenalectomy proved to be as safe as open surgery and causes less distress and allows more rapid return to normal activity. Experience in advanced laparoscopic surgery with teacher is mandatory.
The video shows a right adrenalectomy for a Conn's adenoma: the Gagner's position is used. Four trocars are inserted in the subcostal space and a laparoscope with a 30° viewing angle is used. Right liver is mobilized and inferior vena cava is dissected from renal vein to upper pole of gland.
The perfect knowledge of adrenal surgical anatomy[1] and a bloodless technique are mandatory in this type of surgery.

1. C. Huscher, C. Napolitano. Perspectives de la coelio-chirurgie. Editorial. Le Journal de Coelio-Chirurgie, 1996; 20(Déc):2-3.

MINI-INVASIVE SURGERY IN THE STAGING OF ABDOMINAL AND THORACIC MALIGNANT DISEASES

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INTRODUCTION: Thanks to the advent of the Mini-Invasive Surgery, the general Surgeon has revalueted the function of the laparoscopy or the thoracoscopy in diagnosis.

To the end of years ' 60 it was understood like the explorative laparoscopy, in the liver diseases, was already for diagnostic accuracy and reduction of the complicanze more effective of the percutaneus biopsy. Subsequently, between the years ' 70 and years '80, the diagnostic laparoscopy was used, from the medical doctors, for the diagnosis of acute and chronic abdominal pains and for the staging of the abdominal diseases (linphomas). **METHOD:** From when the general surgeons used the minimally-invasive surgery like a way of access to the abdomen or to the thorax, it has become more and more of ruotine an minium-invasive exploration in the cases in which an instrumental staging he had not been sufficient to make diagnosis. The benefits of demolitive surgical procedures must be balanced with the incidence of the risks of morbility and mortality, the presence of metastatic disease or the vascular structures involvment can not justify the risks of a demolitive surgery. Gained the initial impediments, progressively it has been assisted to an always greater indication to the exploratory action that has allowed to estimate the inoperability, to make diagnosis for pathologies that they did not deserve a surgical but chemioterapic or radioterapic treatment, of free debit approached to greater a resective surgery. **RESULTS:** In our experience we have performed from February 1992 to February 1999 5477 laparoscopic or thoracoscopic procedures. 912 patients have been candidates to an exploratory approach, of which 576 (63%) in emergency, have been cured of their pathology by minimally-invasive approach. For the others 336 patients, in 164 (18%) of them diagnosis of neoplastic disease (primitive or metastatic) has been ade. In 38 of these patients (23%) diagnosis of advanced neoplastic disease has been made for which the minimally-invasive action it is remained a diagnostic step; in 78 patients (47%) it is proceeded, after conversion, to a resettive procedure and in 48 patients (30%) has been able to make diagnosis of abdominal or thoracic malignancy by minimally-invasive biopsys or resection. **CONCLUSIONS:** In our experience 30% of the patients are trattable with the simple minmally-invasive procedure. Minmally-invasive surgery can be used to perform diagnosis in the primitive or advanced malignant diseases.

REFERENCES: Payne JH Jr: Laparoscopic staging of malignant disease. Hawaii Med J 1998 Nov; 57 (11): 705-9.

LAP BAND SYSTEM FOR GASTRIC BANDING IN THE SURGICAL THERAPY OF MORBID OBESITY.

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Introduction We started in June 1996 our experience with VideoLaparoscopic Adjustable Gastric Banding (VLAGB). The technique (1) was chosen because of low invasivity, absence of malabsorption complications, complete reversibility, and possibility of postoperative regulation. **Materials and Methods.** Enrollment criteria to VLAGB included: 1) primary obesity with Body Mass Index (BMI) > 40 or >35 either with concomitant serious medical obesity-related conditions or with other indications to perform a laparoscopical procedure on the upper abdomen; 2) good performance status; 3) informed consent. Preoperative evaluation included screening for endocrine disease, endoscopic and radiological study of the upper digestive tract and ultrasound study of the upper abdomen. All VLAGB were performed by a single surgical team. The gastric band was never inflated at the end of the procedure. A preliminary barium swallow was always taken before oral assumption of fluids was allowed. After discharge, all patients were followed as outpatients. The efficacy of the procedure have been analyzed in terms of per cent of excess body weight loss during the follow up period (2). **Results.** 158 patients (32 males/125 females, mean age 40.27±10.5, range 18-65 years) have undergone VLAGB intervention. Mean body weight was 118.37±20.17 Kg (range 90-195 Kg), with a BMI ranging between 35 and 65.69 (mean 43.72±6.17). Associated procedures were performed in 50 cases (31.65%), including 6 esophageal jatal repair, 26 cholecystectomies due to gallstones, 17 viscerolysis due to previous operations and 6 hernioplasty for umbelical or incisional hernias. The laparoscopic procedure was successfully completed in 152 patients (96.2%). One case (0.6%) was converted to the laparotomic procedure because of epatomegaly. Four cases (2.5%; patient n^ 1, 10, 11, 39) had to be converted for gastric lesion during the laparoscopic approach; in all these cases the lesion was repaired and the gastric band was placed after meticulous abdominal toilette. In 1 of these cases, the gastric band had to be removed 7 days later for sepsis, followed by an uneventful postoperative course. The mean length of postoperative hospitalization (with the exception of the reoperated patient) was 2.5±1.5 days. During the follow up period (mean 451±228 days), per cent of excess body weight loss was 17.35±8.95 after 1 month, 28.23±12.54 after 3 months, 35.7±17.14 after 6 months, and 41.07±20.77 after 1 year. Fifty-nine patients required stoma adjustment: 69 banding inflation were performed, due to loss of early satiety; 10 patients required subsequently banding deflation because of excessive narrowing of the stoma. Four patients (2.5%) required reoperation for gastric obstruction due to gastric slippage with pouch enlargement. **Conclusions.** The laparoscopic adjustable gastric banding is a feasible and effective procedure for the treatment of selected cases of morbid obesity

References.

1. Kuzmak LI. Silicone gastric banding: a simple and effective operation for morbid obesity. Contemp. Surg. 1986; 28: 13-18.
2. Lise M., Favretti F., Belluco C. et al. Stoma adjustable silicone gastric banding: results in 111 consecutive patients. Obesity Surgery 1994; ; 4: 274-8

Videolaparoscopic surrenalectomy

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The extremely encouraging laparoscopic cholecystectomy results led us to increase the use of this technique and the particularly interesting data has been collated from what has been observed in suprarenal pathology treatment. Using laparoscopy it is possible to reach the adrenal gland through the transperitoneal way, on patients in lying or lateral decubitus, or through the back retroperitoneal way. This kind of treatment, as well as permitting you to get over the technical difficulties of open surgery, assures a reduction in postoperatory complications and patients recuperate more quickly.

First of all it allows, through the excellent visualization of vascular structures, to control possible blood loss and, at the same time, the treatment of associated pathologies also present in other organs (cholecystis, ovary) or in the controlateral adrenal gland.

Our experience carried out 18 patient of whom we have executed a transperitoneal videolaparoscopic surrenalectomy with a patient in lying decubitus, permitted us to confirm the effectiveness of this approach which was decisive in cases of secernent adenomas causing hormonal inbalance, as the postoperatory hormonal monitoring showed.

The pneumoperitoneum induction open technique in laparoscopic surgery

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Two different techniques are used to create pneumoperitoneum: the closed technique and the open technique. The former using a Veress needle is generally used by the majority of surgeans because it's quicker but it has the disadvantage that the insufflation needle is blindly introduced and possible complications may arise: subcutaneous emphysema, omental emphysema, mesenteric emphysema, bowel lesions, bleeding as a result of a direct trauma on the main blood vessels.
Also the introduction of the first Trocar conducted without visual check can cause bowled lesions and bleeding. The open technique using Hasson's Trocar has the advantage that the peritoneal cavity is checked before the Trocar is introduced and the insufflation starts. This avoids the most feared complications of laparoscopic surgery, lesions of major blood vessels, and also the risk of bowel lesions is notably reduced. The major criticism of open technique is the increased operation time. However, if open technique requires more time to start the introduction of Hasson's Trocar, it is also true that if you can start the insufflation with a large flows, the creation of the pneumoperitoneum is quiker.
In our research (377 laparoscopic surgery carried out from April 1994 to December 1998) we started using the closed technique through choice (175 cases) and we went on to using the open technique routine (202 cases) because, to our knowledge, without involving an increase in operation time, it offers us a greater guarantee in preventing complications directly linked to pneumoperitoneal creation.

Maxillo-Facial Surgery

Surgical treatment of post-traumatic sequelae of the nose: experience on 40 cases.

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Due to its prominent position the nose is very often involved in facial trauma. Since even minor injuries can cause major disturbances of form and function, a nasal injury should be treated primarly.
The treatment of post-traumatic rhinoplasty sequelae is always unsatisfactory because of the complexity of the lesions. The problems are the fibrosity of the fractured sites on the nasal bones combined to the thinness of soft underlining tissues over the nose witch make the residual imperfections more visible. Nasal traumas can always lead to bad scarring of skin abrasions and wounds.
In addition to this, the anatomical position of the nose subject this organ to continuous movement, making difficult to reach a stable result, expecially if the nasal septum is compromised and deviated.
Another important observation is that juvenile nose injuried can inhibit the nasal growth. Breier observed that 22% of primary operation gave unsatisfactory results. However a multiple step treatment can be planned, expecially in big nasal reconstructions. Anyway we believe that *secondary treatment* must follow some important points:
-atraumatic dissection, expecially on the septal mucosa, to avoid nasal skin lesions and septal perforations;
-correct every septal deviation to solve nasal airway obstruction;
-wide use of autologous cartilage avoiding the use of biomaterials in nasal reshaping and remodelling, because of cartilage versatility and biocompatibility.
Following these surgical skills, we treated 40 patients with various sequelae of nasal trauma. There was a prevalence in males (2.04:1), the age range was from 17 to 49 years old and the medium age was 27.17 years. We inserted 49 cartilage grafts on different sites, three bone grafts and 2 other biomaterials. The complications were 2 graft displacements, 2 cheloids, 1 asimmetry and 1 infection. The function was recovered in all cases and the aesthetic result was pretty good.

EXTRAVASATION MUCOUS CYST (MUCOCELE)

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The extravasation mucous cyst or mucocele is a neoformation which can affect several oral sites with regard to the inflammatory pathology of the salivary glands, and it is very common in the child and in the young since ten to thirty. Because of the traumatic break out of the excretory duct of an accessory salivary gland, this neoformation arises with a following extravasation of mucus in the submucosa. A foreign body reaction in the connective tissue, because of the presence of mucus, is provoked, with the occurrence of macrophages and neutrophiles. It occurs, therefore, the formation of a pseudocyst with a wall constituted by granulation tissue and an inflammatory infiltrate. The most frequent localization of mucocele is in the inferior lip[1], but it can arise also at the mucosa of the vestibule, of the mouth floor, of the lingual belly, of the palate. It looks like a roundish swelling, with variable dimension from a few mm to many cm, with a bluish colour and an elastic consistency, covered with a tensed and transluced mucosa. The neoformed mass generally looks like movable from the neighbouring planes and it is asintomatic. The neoformation is characterized histologically by a cavity contained in the circuit of the lamina propria limited by a pseudocapsule, formed by granulation tissue and containg mucus. The granulation tissue has an inflammatory infiltrate constituted by macrophages and neutrophils. The adjacent salivary gland has a dilatation of the duct, fibrosis and signs of aspecific inflammation[2]. The correct therapy is the surgical asportation of the neoformation including also the adjacent smaller salivary glands to avoid the relapse.The mucocele, clinically, is very similar to the mucous rytention cyst, that generally concerns the same sites of the oral cavity. The difference between the two neoformations is the etiologic mechanism since this last lesion is subordinated to the obstruction of the excretory duct of the salivary gland and not to its breakout. Accorgingly, the cavity results, at the microscopy covered by an epithelium rising from the duct and not from the granulation tissue.
CASE REPORT.
D.C., 48 years old patient, male. At the oral inspection the patient presented a swelling on the left genian mucosa, in the retrocommissural region, lined with undamaged mucosa. At the exam the neoformation looked like smooth, with sharp borders, just movable around the neighbouring planes and with a hard-elastic consistency. The patient had no pain, either during the palpation. The neighbouring lymphonodal sites were not affected. For the undoubted benignity of the lesion, a diagnostic therapeutic excisional biopsy was chosen. The linear incision of the mucosa and the light coming off of the superficial tissues showed the bluish face of a round-like resistant neoformation, which through an easy plane of cleavage, was entirely enucleated. Subsequently the neighbouring smaller salivary glands were excised and the incision was sutured with silk. The histological examination confirmed the diagnostic hypothesis.
REFERENCES
1) Jens Pindborg. Atlante delle malattie della mucosa orale. Ed. Masson, 1995.
2) G. Ficarra. Manuale di patologia e medicina orale. Ed. McGraw-Hill, 1998.

ALLODERM IN FACE RECONSTRUCTIVE SURGERY

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INTRODUCTION:
In Maxillo-facial surgery many cases need an aesthetic correction. Some of them necessitate a specific camuflage because of soft tissue deficits: traumatic event results, some malformative pathologies, demolitive operations.
METHODS:
During last years we have utilised dermal allografts in 35 cases of face soft tissue loss. Most of them were malformative pathologies (Romberg S., LPS,. etc..), traumatic event results, secondary rynoplastics. The operative technique is quite simple and can be performed in sterile ambient also in regional anaesthesia with 2 or 3 little incisions (it depends on region to treat) and after overlaying tissues dissection. A multilayered tape dressing is placed at the end. Antibiotic therapy for a week.
RESULTS:
Very good long term results, few intra and post - operatory problems. No one reject, excellent aesthetic results.
DISCUSSION and CONCLUSIONS:
Alloderm are dermal allografts aseptically processed from cadaveric skin. Cells, immune response targets, are removed from the graft by a special process without altering collagen architectural frame work, support for fibroblast immigration and neo-vascolarization. Many materials have been proposed for a definitive cutaneous augmentation, as Gore-Tex ®, but we think the Alloderm advantage is in its more stability, biocompatibility, inertia and softness, as an ideal allogenous material should be.
REFERENCES:
1. FINI G., LAI G., LIBERATORE G.M., MONTI M. : *Il PTFE nella chirurgia ricostruttiva del volto.* Il Giornale di Chirurgia vol. 13 n. 10, 459-466, 1992.
2. LIVESEY SL., HERNDON DN., HOLLYOAK MA., ATKINSON YH., NAG A. : *Transplanted acellular allograft dermal matrix potential as template for the reconstruction of viable dermis.* 60 Transplantation (1) : 1-9, 1995.

RECONSTRUCTIVE SURGERY OF FACIAL TRAUMAS WITH BONE LOSS USING BIOMATERIALS. OUR EXPERIENCE SINCE 1988 TO 1998

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Introduction
A large range of biomaterials is available nowadays. The surgeon must therefore evaluate the advantages and the disadvantages of every single biomaterial in order to select the most responding one to the operative needs. This paper reports a retrospective analisys about the use of alloplastic materials in facial traumas with bone loss treated at the Department of Maxillofacial Surgery of the University of Rome "La Sapienza" since 1/1/1988 to 31/12/1998.
Methods
247 patients having 255 facial fratures with bone loss underwent to surgical intervention at our referring center since 1/1/1988 to 31/12/1998. 220 fractures involved the orbito-zygomatic region, 11 involved maxillary bone, 4 involved the mandible and 20 were panfacial fractures. Treatment of the 255 fractures required 276 implantations of biocompatible alloplastic material. The most employed biomaterial resulted to be Dura Mater. We used Dura Mater in 213 cases, Titanium osteomesh in 18 cases, Hydroxiapatite in 18 cases, Medpore in 13 cases, Sylastic in 6 cases, Proplast in 5 cases and Goretex in 3 cases.
Results
The large use of Dura Mater is due to the high incidence of the orbito-zygomatic district fractures, where Dura Mater is usually employed. Hydroxiapatite proved to be malleable and adaptable in the implantation site. Medpor was used for its good aesthetical results. Goretex Sylastic and Proplast resulted in high incidence of postoperative infections and in low stability at implantation site. The use of those biomaterials did not provide good results in the long run and we had to perform their removal in 12 patients.
Discussion and Conclusions
The employment in facial traumas with bone loss of biocompatible materials in order to fill bone gaps in zones without functional load, is widely spread in the International Bibliography. The ideal caractheristics of biomaterials are: to be perfectly biocompatible, to provide good stability in the implantation site and to be easily malleable and adaptable to the required shapes. Few biomaterials only match theese features. Goretex, Sylastic and Proplast gave bad results because of high incidences of postoperative infections and because of low stability. Dura Mater, Medpore, Hydroxiapatite and Titanium osteomesh had the best features and they, if implanted in regions without any functional load, can provide very good aesthetical results without resorptions or changing of shape in the long run. Dura Mater and Hydroxiapatite help bone growth according to the criteria of osteconduction, osteoinduction and osteogenesis.
References
1. Veron C.– Chaanavaz M. – Ferri J. – Donazzan M. – Hildebrand H.F. : "Biomateriaux et biocompatibilité". Rev Stomatol Chir. MaxilloFac. 1995 Vol 96. 4: 274-281.
2. Maas C. – Merwin G. – Wilson J. – Frey M.D. – Maves M.D. : "Comparison of biomaterials for facial bone augmentation". Arch Otolaryngol Head Neck Surg. 1990 116: 551-556

RECONSTRUCTIVE SURGICAL TECHNIQUES AFTER PARTIAL AND SUBTOTAL GLOSSECTOMIES

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Introduction
Lingual localizations of oral tumors are the most frequently observed. In 91% of cases beginning lesions can be found in the posterior sites of ventral and marginal tongue areas.
Methods
Tongue carcinoma in its various classification gradings and in accordance with its localization requires surgical treatment both on T and N and post-surgical radiotherapy. Serious post-surgical mutilations must be treated with reconstructive techniques that are based on microsurgery and that consist in peduncled flap or in microvascular flap.
The available flaps for the oro-maxillo-facial surgeon are fascio-cutaneous flaps, mio-cutaneous flaps and composite flaps (osteo-mio-cutaneous) that allow the reconstruction of mandibular segments. Osteo-mio-cutaneous flaps permit to apply a dental protesis, in order to achieve a good postoperative functionality.
Results
At the Otorhinolaryngology, Head and Neck Surgery, National Cancer Institute "REGINA ELENA" of Rome we prefere to use the naso-mental flap and the latissimum dorsi miocutaneous flap among the peduncled flap; among the free-flap we prefere to use microvascular radial flap ("Chinese flap") and the rectus abdominis miocutaneous flap.
Discussion and conclusions
The aim of reconstructive surgery after partial or subtotal glossectomies is to restore morphology and functionality of pelvi-lingual complex in order to achieve a satisfying phonetical and functional rehabilitation.

A retrospective study of 465 oral implants inserted in the severely artophic jaws and rehabilitated by means of autologous bone grafts.

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In a clinical study of dental implants inserted at the Maxillofacial Department of Verona, which was carried out from 1993, pre-prosthetic rehabilitation of severely atrophic edentulous jaws were obtained by means of different bone regenerative techniques. This retrospective analysis includes the bone graft survival, the absence of any surgical, vascular or neurological complications and soft tissue infections. A whole evaluation has been completed by bone tissue histological assay. Referring to the implant survival, we rely on the wellknown success criteria described by Albrektsson and co-workers in a previous study on dental implants (Albrektsson T., Dahl E., Enbom L., et al.: Osseointegred oral implants. J. Periodontol, 1988).

Including criteria for the present investigation are: severe or extreme alveolar atrophy, bone grafted upper maxilla or mandible, major pre-prosthetic surgery, root form implants, implant supported prosthetic rehabilitation. A total of 465 implants were inserted consecutively in the grafted jaws bones from 1993 up to 1998. 293 implants have been inserted at the upper jaws (31 of them were inserted in free revascularised bone flap, and 53 in inlay grafts) and 172 at the mandible (28 of them in free revascularised bone flap) respectively. The mean follow up is 51 months for endosseus implants and 40 months for dental prosthesis.

The upper maxilla grafted cases show an implant success rate of 93.8% (209 inserted implants with 13 failures); with free revascularised bone flaps we obteined 100% of success rate (31 implants inserted with 0 failure); the inlay bone grafts, placed into a Le Fort I osteotomy and down tilting of the upper maxilla, show a 79.3% success rate (53 implants and 11 failures). Anyway such lower figures are comparable to Li's clinical experience (82%) and slightly lower than Krekmanov L. (86.6%).

Mandible grafted cases show an implant success rate of 93.7% (144 inserted implants with 9 failures), while using free revascularised bone flaps the success rate is still 100% (28 inserted implant with 0 failures).

In both jaws the best percentage is obtainable when bone regeneration is performed via autologous free revacularised bone flaps: 100% success rate.

Functional rehabilitation of the atrophic jaws with revascularized free fibula flap and implants-supported prosthesis.

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Extreme alveolar ridge bone resorption represents a big challenge in jaws reconstruction. Autologous Iliac bone grafts never secure reliable results neither to the mandible neither to the upper jaw, expecially when total alveolar augmentation is necessary; this depends on poor vascular supply at the recipient site in extreme bone atrophies. The use of free revascularized bone flaps in jaws augmentation ensures an adequate and indipendent vascular income. Since 1993, we have tested the free vascularized fibula flap in alveolar crests augmentation due to class VI atrophy sec. Cawood, to obtain a fixed, homogeneous, bicortical bone support for implant rehabilitation. 11 patients were treated (average age 45.5 years old) with free vascularized fibula flaps (5 mandible and 6 maxillary alveolar crest augmentations). The average fibula's lenght was 11.7 cm. All flaps healed primarily. A vestibuloplasty was performed prior to implants. 60 osteointegrated implants have been placed (28 into the mandible and 32 into the upper maxilla); only one maxillary implant was removed during surgery because of low primary stability. Excellent stability was performed in 59 of 60 implants and 11 overdentures were applied. The masticatory load ranged from 6 to 33 months (average 13.4 months). A very well tested stability of the implant-supported prosthesis has been pointed out in all treated cases, even after 3 years of functional loading. There wasn't any long term donor-site morbidity. Extreme alveolar crest atrophy, including the basal bone, represents, in our experience, a proper indication to the use of free vascularized fibula flap.

References:

1) Bähr W.: "Maxillary augmentation with a microvasculary anastomosed fibula: A preliminary report". *Int J Oral Maxillofac Implants;* 11: 719, 1996.
2) De Santis G, Chiarini L, Bedogni A and Nocini PF. Fibula to Jaws: emphasis on osseointegrated implants, TMJ and maxilla reconstruction. *Eur J Plast Surg*; in press.

Reconstructive methods in cranio-facial traumas

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Introduction: The complex fractures that interest the cranio-facial skeleton need an immediate reconstruction to restore a good aesthetic and function to the patient. This kind of fractures often involve a severe plurifragmentation of the bone and loss of tissue. In shot gun traumas there is, also, a tissue necrosis and a possible infection that worsen the prognosis. Where it is not possible to treat these complex fractures with a simple reduction and fixation of the displaced fragments, it is necessary to use a transplantation of autologous or eterologous tissues and/or alloplastic implants.

Methods: For a correct morphologic reconstruction of cranio-facial bone structure several kinds of implants such as the autologous (calvarian bone, cartilage, pericranium), the omologous (Lyo-dura), the eterologous (cow pericardium) and the alloplastic ones (Titanium mesh and 3-D plates, PTFE) are used. The reconstructive time, in shot gun wounds, can be defered by carring out, as first step, a surgical courettage. In severe bone loss due to ballistic traumas, other devices can be utilized. A new utilization of the bone distraction system is proposed.

Results: In our experience the complex cranio-maxillo-facial fractures are usually restored with the traditional mini and micro titanium system devices. We had some problems in the large bone loss secondary to ballistic traumas; it is possible to generate new bone utilizing concepts of bone distraction applied in malformative surgery.

Discussion and conclusions: The standard reconstructive techniques after severe cranio-facial traumas give good results as shown in international literature. Worse results are recorded after shot gun traumas in which the tissue necrosis and contamination do not allow an immediate surgical reconstruction. The secondary surgical time must restore, where possible, the face bone symmetry and a good aesthetic of the soft tissue.

References:

1) Tessier P.: Aesthetic aspects of bone grafting to the face. ClinPlast.Surg. 8:279,1981
2) Tessier P.: Autogenous bone grafts taken from the calvarium for facial and cranial application. ClinPlast.Surg. 9:531,1982

MULTIDISCIPLINARY THERAPEUTICAL TREATMENT OF ORAL CAVITY CARCINOMA.

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Introduction.
Oral cavity carcinoma therapeutical protocol and prognosys can be totally different due to an early or late diagnosis. Many authors report that about two thirds of the patients at the moment of diagnosis are in stage III or IV.
Both radiotherapy and surgery can succesfully control lesions in stage I or II. Even if each one has its own indications, due to the site of the lesion, they, however, have the same results in the local and regional control of the pathology.
With regards to the pathologies in an advanced stage, the local progression of which represent a major cause of death, the therapeutical program can apply combined therapies.
Surgery and post-operative irradiation may result in failure in stage III and IV.
Neoadjuvant polychemotherapy has been introduced in polytherapeutical protocols since the seventies with several successes.
It should be mentioned that the increase of surviveness in patients which clinically respond to neoadjuvant chemiotherapy, is evident.
The postoperative irradiation in now performed only in cases selected on the basis of histopathological result.
A radical surgical intervention, even if the lesion interests several anatomical structures is now achieved, in fact free lap transfers can restore large surgical defects preserving functionality and cosmesis.
Method.
In our department**,** patients affected by oral carcinoma in the initial stage (I and II) are subjected to a surgical resection with a first intention reconstruction or with local flaps; on the contrary patients with carcinomas in advanced stages (III and IV) follow a multidisciplinary therapeutical protocol (pre-surgical chemiotherapy, surgery and /or post-surgical radiotherapy).
Result.
After a critical review of the literature the authors report their experience with 65 patients (48 men, 17 women), with a mean age of 59,9 years, affected by squamous cells carcinoma of oral cavity, not previously treated, with a follow-up of at least two years.
This group of patients underwent surgical operation alone, or combined in polytherapeutical protocols.
Clinical stage of patients were as follows: 11 patients, stage I; 20 patients, stage II; 20 patients, stage III; and 14 patients, stage IV.
The patients in early stage (I and II) underwent surgical operation alone; the latter cases (III and IV) underwent neoadjuvant polychemiotherapy and surgical operation, and only in histopathologically selected cases underwent postoperative irradiation too.
Discussion and conclusion.
The therapeutical treatment of the oral cavity malignant neoplasias has noticeably evoluted in the last years.
By the analysis of the international literature and of our results, it is our opinion that polychemiotherapy should be effectuated in patients with pathologies in an advanced stage, whereas we prefer surgery or eventually radiotherapy in pathologies in the initial stage also considering the neoplasia location.
Reference.
1)Bahadur S. – Kumar S. – Tandon D.A. – Rath G.K. :Combined therapy in advanced head and neck cancer. J. of Laryngology and Otology. 1992, 106: 412-415.

PERINEURAL INVASION OF THE LOWER ALVEOLAR NERVE BY ORAL CANCER

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Introduction. Perineural invasion (PI) in the case of oral squamous cell carcinoma (SCC), also in early lesions and in the absence of nodal metastases, has been emphasised as a very important prognostic factor. Diffusion along nerve structures is more common than is generally thought. We have reviewed our experience in an attempt to clarify the clinical features and behavior of PI.

Materials and Methods. A retrospective review of 12 previously untreated cases of oral SCC with PI of the lower alveolar nerve observed from 1985 to 1992 at the Department of Maxillofacial Surgery of the School of Medicine and Surgery of "Federico II" University of Naples (Naples, Italy) has been undertaken. Age, sex, site, and clinical stage were evaluated in every patient. The same diagnostic tests were performed in every case: clinical examination, X-ray, and computed tomography (CT). Management of the neoplasm consisted of wide excision of the tumor. Six patients received adjuvant radiotherapy. The total dose applied amounted to 50-60 Gy.

Results. The sites involved were the lip (8 cases), the floor of the mouth (2 cases), the retromolar trigone and the lower alveolar ridge (both in 1 case).
At the time of diagnosis, five patients indicated sensory complaints such as numbness, paraesthesia, anesthesia, burning, shooting or stinging pain. Instrumental study enabled the diagnosis of PI in six cases, with X-ray and CT. Palpable lymphadenopathy was observed in three patients at the time of diagnosis. The median survival time was 32.2 months in patients presenting with neurologic symptoms and 41.6 months in asymptomatic patients.

Discussion. The spread of the carcinoma along nerve structures, through the perineural lymphatic channels, is considered an important diffusion route. PI mainly along the lower alveolar nerve is more common than is generally thought and represents an important factor in prognosis assessment and therapeutic management. In SCC of the lip, diffusion is generally limited, as in our experience, to 10-15 mm along the lower alveolar nerve, but reports of spread through the foramen ovale into the brain cavity have been described too. In conclusion, we observed that the association of instrumental (X-ray, CT) and clinical (neurologic symptoms) observations allow a diagnosis in 75% of the cases and preoperative diagnosis of PI and consequent improved therapeutic planning do higher the survival rate.

Califano, L., P. Maremonti, A. Zupi, G. De Rosa: Spread of squamous cell carcinoma of the lower lip along the inferior alveolar nerve: a case report. J Oral Maxillofac Surg 53 (1995) 1108-1110.

MICROTIA REPAIR WITH AUTOGENOUS CARTILAGE

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Microtia occurs once in every 6.000 births. Reconstruction of this complex deformity represents one of the greatest challenges to the reconstructive surgeon. Based on the pioneering work of Tanzer and Brent, the techniques have matured to the point that consistently good results can be obtained. Several techniques have been proposed but the best results have been obtained with autogenous cartilage. The staged reconstruction of the microtic ear, which can begin at 5-6 years of age, involves: placement of an autogenous cartilage framework, rotation of the lobule, formation of a conchal depression and tragal reconstruction, elevation of the elical rim and, eventually, minor final adjustments.

The authors presents their experience in microtia repair with autogenous cartilage and refers about some technical details that can optimize the final result.